NETWORKWORLD

THE CONNECTED ENTERPRISE ≡ MAY 21, 2012

CLEAR CHOICE TEST
DESKTOP-AS-A-SERVICE (DAAS)

Consider desktops in the cloud for BYOD

Five DaaS vendors deliver Windows desktops to any end user device.

Page 24 ▶

Focus on 'mobility' as wireless evolves

BY JOHN COX

CISCO'S WIRELESS Networking Business Unit doesn't actually talk so much about wireless networking these days.

IT is no longer focused on replacing wired connections with wireless so workers can carry their corporate laptop to the conference room. The real question has become: What can they, and the company, and the company's customers, now do once they've made that replacement?

"Connecting a device to my corporate network is just step one. The question is: What happens after that?"says Sujai Hajela, vice president/general manager of Cisco's Wireless

▶ *See* **Cisco,** *page 12*

> **❝ CONNECTING A DEVICE TO MY CORPORATE NETWORK IS JUST STEP ONE. THE QUESTION IS: WHAT HAPPENS AFTER THAT?**
>
> **SUJAI HAJELA,** CISCO VP/GM OF WIRELESS

SPECIAL FOCUS

Social media brings business, but complicates security

BY ELLEN MESSMER

SOCIAL MEDIA — Facebook, Twitter, LinkedIn, Google+ and so forth — has become a way of life for companies and their employees to interact with the public, but beating back the fraudsters that try to prey on customers, not to mention keeping employees from spilling sensitive data, is becoming a full-time job for many in IT.
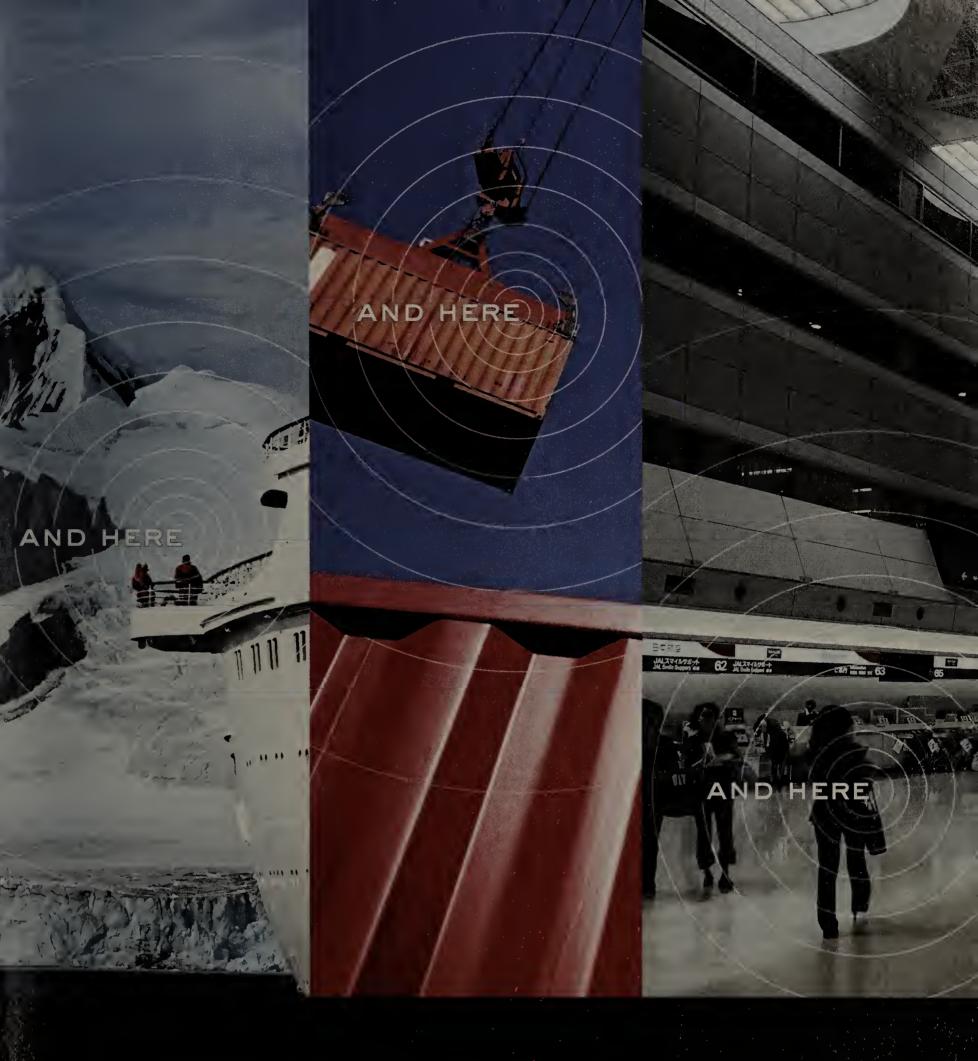
"We do a lot of social media, it's actually an important part of our business," says Yaron Baitch, director of information technology and security at Bob's Stores, the apparel retailer in the Northeast region which counts about 1,500 employees. The store chain uses its Facebook site and Twitter for continuous interaction with the public.

▶ *See* **Social,** *page 32*

THE DATA CENTER IS HERE

AND HERE

AND HERE

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BROCADE

FROM THE EDITOR | JOHN DIX

A software-controlled world: The look ahead

The Interop show in Las Vegas is always a good bellwether for enterprise technology trends, and perhaps the most striking thing about the recent show was how little the term "network fabric" came up.

As *Network World* blogger Jon Oltsik, a principal analyst at the Enterprise Strategy Group, said in a post, "Everyone was talking about data center fabrics last year — TRILL, SPB, QFabric, FabricPath, etc. This year however, hardly a word was spoken."

The buzz instead was about software-defined networks, decoupling the network control plane from the data plane and using the OpenFlow protocol to give servers, which inherit network control, access to devices such as switches and routers.

Driving the interest? While virtualization has made it possible to create VMs in minutes, the network changes required can take days because they involve multiple people and multiple tools to update port groups, change virtual router settings, update firewalls, take care of management tools, etc. Offloading that control to servers will simplify and speed the process, making it possible for changes to be propagated across multiple tiers of infrastructure in one fell swoop.

It is still early, and attendees at the show flocked to educational sessions on SDN and OpenFlow looking to learn more. This isn't to say the network fabric discussion is over; it has just been eclipsed.
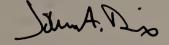
One of the other overarching themes at the show, as you would expect, was cloud computing. In fact, SDN and cloud are all part and parcel of the same movement toward software-controlled everything. Many Interop speakers, in fact, were using the term "software-defined data center" as a description of an emerging future state, presumably ultra elastic environments that can morph to meet shifting demands.

He may not be there quite yet, but Zynga CTO of Infrastructure Allan Leinwand used his keynote address to describe his amazingly flexible cloud environment.

Zynga, the company that produces "FarmVille" and other popular online games, has experienced tremendous growth, at one point scaling servers 100:1 year over year. It couldn't keep up with that in the early days so turned to a cloud supplier mid-2009. But by the beginning of 2011 the company realized it wanted to own the core and just rent capacity to accommodate the spikes, so it set out to build a private cloud.

Six months after a proof of concept, Zynga's zCloud was in full production, and by the end of the year it was supporting 80% of the company's compute load. The most fascinating nugget: Zynga was able to support on one highly tuned zCloud server the loads from three public cloud servers. Today Zynga operates what Leinwand says is the largest hybrid cloud in the world.

All the virtual pieces are aligning nicely, and it isn't unreasonable to expect that software-defined data centers will be within reach by the end of the decade.

peersay

Security technology trends

➔ **FORRESTER IS MOSTLY** on the money, except for the "predictive threat modeling" bit. In order to adequately protect critical data and services (applications), detection technologies must be more behavior-anomaly based; that requires more of the normal (expected) behavior modeling than "threat" modeling (Re: Forrester outlines 5 rising, 5 declining security technologies"; tinyurl.com/covusxp).

Furthermore, risk management must take more of a security ecosystem approach as opposed to the largely siloed approach so far. I know the last part is hard to do, but who could say that security is easy.

Fengmin Gong

Android vs. iPhone

➔ **THANKS FOR A** decent article. I have the following short comments ("Re: How to make Android faster, more productive and more secure than iPhone"; tinyurl.com/c2w7sgl):

1. Regarding keyboards: surprised that you didn't mention SwiftKey, which I personally prefer to Swype.

2. My screen protector does not seem to leave any "pattern" that would make it easy for a thief to discover my pattern-unlock. And of course, you usually unlock the phone to tap and move your finger otherwise on the screen, to actually do things, not just unlock for unlocking's-sake. So you would probably "overwrite" some of the oils on the screen and make it difficult to determine your unlock pattern in very short order.

PJ

➔ **ANDROID NEEDS TO** be revamped so that permissions can be selectively allowed or denied for each app by the end user, and provide a clearer explanation of why it needs each permission, rather than the current all-or-nothing nebulously-described permissions model. This would help defuse the rather accurate statement but dismal security mindset of "permissions that everyone just ignores."

Rick762

What BYOD policy?

➔ **I WOULD RESPOND** to the article title with another question: "What BYOD policy?" (Re: "Is your BYOD policy out of date?"; tinyurl.com/c3dlrfr.)

We touch dozens of IT teams weekly and we aren't seeing many organizations make any formal policies to address BYOD and consumerization trends. But to the point of the article, should they have policies? Certainly. Should they be updated regularly? Definitely.

Aaron Suzuki

Voice calls' days are numbered

➔ **AN APPOSITE MOMENT** for this article (Re: "SMS a killer app at 20; irrelevant at 25?"; page 16).

The bell will toll sooner or later for voice calls as well, if only because phone users will prefer to buy a data plan that includes everything over having to juggle guesstimates between how much data and how much voice time they plan to consume. VoIP is a more-than-mature technology.

Martin Turner

IT talent: People, not resources

➔ **TECH MANAGERS ALWAYS** look to their vendors for guidance as to what to do for their tech people. Vendors, after all, compete for similar skills in techs since they build and sometimes even use the products and tools the client tech managers deal with on a daily basis (Re: "Tech managers aren't developing IT talent"; page 16).

When vendors like IBM have been treating their tech skills assets like dirt and call them "resources," is it a surprise that the client managers of those same skills don't do the same thing?

Until the hypocrisy of calling tech people vital but treating them like "human resources" ends we will continue to have this management problem. If and when the economy turns around, the new rising young generation of cynical and self-centered tech employees which these management practices have created will come to roost to American business.

Darth Vader

> ## We aren't seeing many organizations make any formal policies to address BYOD trends.

Building the engines of a Smarter Planet:

Cyber crime is inevitable.
Becoming a victim isn't.

On a smarter planet, midsize businesses are more intelligent and interconnected than ever before. Rapidly emerging technologies are helping businesses innovate, yet these technologies also present their own risks. With record levels of security breaches reported in all industries—across the globe—antivirus measures and firewalls simply can't provide sufficient protection against ever-evolving cyber threats. IBM Hosted Vulnerability Management Service (VMS) is not like other security solutions. It uses the same methods that a hacker would to identify your company's security risks and then outlines specific step-by-step solutions. Benefits of VMS include:

Identifying risks before hackers do.
IBM VMS remotely scans your IT infrastructure on a regular basis, pointing out potential threats and outlining the appropriate solutions.

Security that evolves with your company.
IBM manages VMS through the cloud. So as your company's workloads become more complex, VMS updates automatically and requires minimal resources in terms of staff, hardware and software.

Providing the confidence to drive your business forward.
As your midsize business continues to leverage new technology, VMS can help protect your IT infrastructure from ever-evolving cyber threats.

To receive a free security scan for your company[1] and find the right IBM Business Partner, call **1-877-IBM-ACCESS** or visit **ibm.com**/engines/vms

IBM Hosted Vulnerability Management Service
Starting at

$**1,025** per month

for unlimited scanning of up to 49 Web applications or IP addresses.

IBM

Midsize businesses are the engines of a Smarter Planet.

bits

Utah CTO falls on his sword for data breach

THE EXECUTIVE DIRECTOR of Utah's Department of Technology Services, Stephen Fletcher (left), has resigned over a data breach that exposed the Social Security numbers and other personal data of about 280,000 Medicaid recipients. Hackers, believed to be operating out of Eastern Europe, broke into a Medicaid server at the Utah Department of Health on March 30 by exploiting a default password on the user authentication layer of the system, bypassing multiple network, perimeter and application level security controls. In a statement, Utah Gov. Gary Herbert described various initiatives underway that aim to mitigate the risk of similar breaches, including an independent audit of all IT security systems, the appointment of a new health data security ombudsman, and a continuing investigation of the breach by law enforcement personnel. "The people of Utah rightly believe that their government will protect them, their families and their personal data. As a state government, we failed to honor that commitment," Herbert said. *tinyurl.com/7fa8twh*

Ethernet switching gets specialized

FROM 2003 to 2008 growth in the Ethernet switch market occurred across all segments — low-end unmanaged switches, mid-range fixed PoE devices and high-end modular systems — but since 2010 it has been all about the data center, according to market researcher Dell'Oro Group. With the migration toward 10 Gigabit Ethernet for server access, vendors are coming out with unique products optimized for those, and other specific deployments. "Manufacturers can no longer develop a switch for one customer deployment location and modify it into a second location and expect success," the firm states. *tinyurl. com/84zvvo2*

Don't forget to pack your printer

ROAD WARRIORS who need mobile printing access are the target of HP's new portable printer, which the company claims is the world's first multifunction device that can "print, copy and scan on the go." At 6.8 pounds, the OfficeJet 150 Mobile All-in-One portable printer is lighter than stationary inkjets but feels as bulky as a high-end gaming laptop. The $399 printer is targeted at mobile professionals such as contractors or insurance agents who need mobile printers as they move between locations, said Eric Killian, a product manager for printing at HP. *tinyurl.com/77joboq*

Mozilla set to take on Apple App Store, Google Play Store

MOZILLA'S ONLINE app store is set to move to a public beta stage in a couple of weeks. The browser-accessible Mozilla Marketplace will feature apps built using Web development technologies, including: HTML5 for structure; Cascading Style Sheets for layout, visual aesthetics, and visual behaviors; and JavaScript for logical implementation. Mozilla Marketplace will offer developers hundreds of millions of more users than the rival Apple App Store and Google Play Store, says Mozilla's Joe Stagner. It also will feature a liberal application submission process. "There's a very quick screening process," with restrictions on illegal software, pornography, and software that infringes copyrights or trademarks, Stagner said. *tinyurl. com/74tjnme*
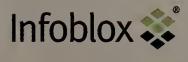
Benny Kirsh
VICE PRESIDENT AND CIO,
INFOBLOX, INC.

Benny Kirsh, vice-president and CIO of Infoblox, previously held several Executive CIO positions and was directly responsible for the successful implementation of major transformation projects. As CIO of The Cooper Companies, he led a team of IT professionals and was responsible for all Global IT strategic planning and execution. Prior to that, he was the first CIO at Kyphon, where he was responsible for building a growth-focused IT foundation.

FOR MORE INFORMATION on leveraging IT automation to gain faster time to value, check out the Webcast **"The CIO's view: Time to Value through Automation"** at www.networkworld.com/webcasts/infobloxvalue

Infoblox ®

The CIO's View: Delivering Time to Value Through Automation

In August 2011, Benny Kirsh was named VP and CIO at Infoblox, an industry-leading developer of network infrastructure automation and control solutions. With more than 25 years of experience, Kirsh is responsible for driving strategic advancements via the company's IT infrastructure and applications. Now more than ever before, IT professionals like him are being asked to deliver strategic value by responding quickly to dramatically changing business demands. But in today's tight economy, they must do so with flat budgets and staffing levels. IDG recently sat down with Kirsh, who explained how corporations can meet those conflicting business imperatives.

Time to Value has become a catchphrase in IT today. What does the term mean to you?
Traditionally, IT has enabled companies to change the way they do business. Investments in IT were high, with cutting costs and a positive ROI as the main objectives. Now,

They expect the same level of responsiveness from IT. Second, technology is becoming more complex, so we must constantly simplify the management of our systems. Third, because of changing business needs, IT is required to do more with less. And finally, we are expected to provide a high level of quality solutions fast enough to support new business initiatives. Balancing all these different drivers requires us to be more creative and innovative.

How is automation beneficial in improving your ability to deliver Time to Value?
Automation speeds up Time to Value. The biggest benefit is to the network. Infoblox's solution successfully reduced the complexity of our network and consolidated all the information gathered from different network devices and different vendors onto one pane of glass for our network engineers to work with. In the past, experienced network engineers had to perform routine, time-consuming mainte-

> *"Automation is key to realizing faster Time to Value."*

the focus is on getting projects done faster, meaning shortening lead times and responding to changing business needs speedily. With businesses promoting themselves in dynamic ways, IT has to be agile enough to accommodate rapid changes. In the past, a rollout of solutions was a periodic event with long lead times. Today, public and private clouds and the consumerization of IT have changed expectations. So for us CIOs, Time to Value means rolling out systems and new solutions faster with shorter lead times — while remaining focused on cutting costs. As a business partner, IT has to understand the needs of the business and stay ahead of the curve, introducing new technology as needed and being a catalyst for change within the corporation.

As a CIO, what are the challenges you face in delivering Time to Value?
The four challenges are quite clear. First, business units' expectations are increasing. During lunch, employees download an app from the cloud for $50, and they are up and running.

nance activities, such as upgrades or bug fixing. Increased automation lets us hand these tasks to our junior engineers and/or the IT support group, freeing up senior staff to work on more strategic initiatives. That drives costs down and delivers a better Time to Value.

Please tell us about your experience implementing automation at Infoblox.
By embracing the private cloud for speedy deployment of computer power, we are providing the Engineering department with the capability of self-provisioning virtual servers without IT involvement. Using the private cloud in IT, we recently deployed a new reporting tool that would previously have taken weeks. Now, thanks to virtualization and the automated provisioning of IP addresses provided by the Infoblox solution, it took just days. The move from manual processes to self-provisioning has enabled the IT team to support our organization's changing business requirements. Automation is key to realizing faster Time to Value.

Geena Davis: From "Beetlejuice" to world telecom honoree

ACTRESS GEENA Davis, President of Argentina Cristina Fernández de Kirchner and Huawei Chairman Sun Yafang have been named winners of the 2012 ITU World Telecommunication and Information Society Award for their efforts promoting information and communications technology to empower women and girls. The Academy Award-winning Davis is founder of the nonprofit Geena Davis Institute on Gender in Media.

CRISTINA FERNÁNDEZ DE KIRCHNER

GEENA DAVIS

SUN YAFANG

good

Goodbye grandfathered unlimited data plans

VERIZON, CONTINUING its purge of unlimited data plans, has announced that even those with grandfathered plans will need to move to tiered offerings if they want to stick with Verizon upon upgrading to 4G LTE phones. CFO Fran Shammo, speaking at an investors' conference, said the policy change will take place once Verizon starts offering shared data plans, probably by mid-summer. "So as you come through an upgrade cycle and you upgrade, in the future, you will have to go onto the data share plan," Shammo said.

bad

Will there be light at the end of tunnel for LightSquared?

LIGHTSQUARED FILED for Chapter 11 bankruptcy protection last week, declaring assets of $4.48 billion and debts of $2.29 billion. LightSquared wanted to run an LTE mobile broadband network using frequencies next to those used by GPS, but was shot down by the government after a determination that the network would interfere with GPS. Philip Falcone, whose Harbinger Capital Partners owns most of LightSquared, said declaring bankruptcy will give the company more time to gain regulatory approval for its network. In its bankruptcy filing on Monday, the company acknowledged that getting permission to build its network may take two years, a prediction some observers say is optimistic.

ugly

Angry Birds tops companies' app blacklist

IT SEEMS that your boss doesn't want you to launch digital birds at evil green pigs during office hours. Research released by mobile device management firm Zenprise found that Angry Birds was the most-blacklisted application among users enrolled in its Zencloud MDM service. Other mobile apps that companies block at work include Facebook, Google Play, Dropbox, YouTube and Skype, Zenprise found. Interestingly, Zenprise also found that Skype was the most whitelisted app among its customers, thus making it the top app to appear on companies' blacklists and whitelists. *tinyurl.com/708usba*

Software piracy tab surpasses $63 billion

FOUR OUT of every 10 programs used in the world are pirated or unlicensed, resulting in $63 billion a year in lost revenue, the Business Software Alliance estimates in its annual survey. The worst offending market, China, has topped the list since the organization started its survey in 2007. China has a piracy rate of 77%. Other developing countries, such as Venezuela (88%), Indonesia (86%), and Argentina (69%) scored poorly. By contrast, the world's largest software market, the U.S., had a rate of 19%. *tinyurl. com/7zv8xnv*

Juniper to license Radware tech for data center?

JUNIPER NETWORKS is said to be negotiating a deal to license with Radware's application delivery controller technology. According to investment firm Oppenheimer & Co., Juniper would integrate the Radware ADC with its QFabric data center switch architecture. Oppenheimer believes the deal to be worth $70 million to $100 million over three to five years. "We believe Juniper has been looking for some time to build an eco-system around its data center architecture, the QFabric, and Radware would offer a key building block with its ADC engine," says Oppenheimer analyst Ittai Kidron. Specific details of the possible arrangement are still limited. *tinyurl. com/cmf4bca*

Networking Business Unit, who spoke with *Network World* last week regarding Cisco's announcement of three new pretested bundles of products and services designed to cut through the confusing complexity of enterprise mobility.

The new Smart Solutions packages are by themselves not exactly new; they're formed of existing Cisco hardware and software, third-party partnerships, and consulting services from Cisco or its partners. But Cisco says they represent a shift in the company's thinking about how to deploy mobile technology for businesses. Instead of a grab bag of separate products, the new approach sees mobility, in effect, as a whole that's greater than the sum of its many parts, including devices, operating systems, apps, Wi-Fi access points, VPNs, authentication and security. The overarching enterprise benefit, according to Cisco, is summed up in a new term: "Cisco Unified Workspace."

"Enterprises are looking at the next generation of users coming into their ranks," says Tim Zimmerman, principal analyst for network services and infrastructure with market watcher Gartner. "Most of them don't even know what an RJ-45 plug is. The iPad doesn't even have one. There's a presumption of wireless connectivity [being available anywhere, anytime]. That puts more responsibility on IT organizations to manage that."

Cisco's main challenge in the enterprise market, he says, is execution and optimization — in effect, turning PowerPoint slides of talking points into concrete capabilities that enterprises buy into and then buy to mobilize business.

Cisco still dominates the enterprise wireless LAN landscape, but its dominance is less complete than it was a few years ago. By revenues, Cisco's share of the total worldwide market for enterprise WLAN equipment is now about 50%, down from the more than 60% it commanded for years, according to IDC. Its nearest rival, publicly held Aruba Networks, finally broke into a double-digit share of global revenues only last year, capturing 11.5% according to IDC.

Cisco continues to invest heavily in radio frequency technologies, leveraging its own

The top 5 enterprise Wi-Fi vendors

Percentage share of total worldwide revenues for enterprise-class WLAN equipment

Vendor	2009	2010	2011	Growth 2010-11
Cisco	52.0%	53.3%	50.2%	21.8%
Aruba	8.1%	9.1%	11.5%	63.6%
HP	7.1%	6.4%	6.2%	34.2%
Motorola Sltns.	6.7%	6.4%	6.2%	25.0%
Meru*	3.1%	2.7%	2.5%	15.5%

*IN 2011, RUCKUS WIRELESS BECAME NO. 5 IN TERMS OF REVENUE, WITH MARKETSHARE OF 3.6%, AND 2010-11 GROWTH OF 80.9%.
SOURCE: IDC

Wi-Fi chip designs with Cisco-developed, on-chip code to boost signal reliability and consistency, and throughput. The focus is less on raw chip-level data rates, though that's important, and more on optimizing the connection to provide the reliability, security and throughput of a wired Ethernet link.

Cisco's Hajela, who formerly ran Motorola's WLAN group and came over to his current job at Cisco in August 2011, sometimes sounds like a network version of Dr. Phil. "More and more of our messaging is about customer 'care-abouts,'" he says at one point. And at another point, "The end user is looking for an uncompromised experience, regardless of the network" connectivity.

These bromides actually mean something, and Hajela becomes specific and insistent when pressed. "The network doesn't matter to the user," he says. "What he wants is to be able to use his app wherever he is."

And that use must be optimal. "If my device and my network connection supports high-def video, then I should get high-def video," he says. "And if I'm using a smartphone, I should get optimal battery life. These things should be handled by intelligence placed in the network."

Cisco's job is to cram more and more intelligence into the networks and applications and infrastructure that supports the enterprise's mobile users and mobile business.

"What's really resonating with enterprise IT is this: The system looks at who the user is, and what he's trying to do, rather than how he's connecting" by wire or wireless, Hajela says.

Cisco's Identity Services Engine (ISE) is a key part of this approach, identifying and authenticating users regardless of how they connect, and adjusting their access and security privileges based on variables such as their location, connectivity and time of day.

Tightly integrated with ISE is Cisco Prime Network Control System (NCS), which replaced the stand-alone Wireless Control System management application for Cisco WLANs, and creates a single console for managing both wired and wireless.

The need for such an approach "just plain makes sense," *Network World* wireless blogger Craig Mathias commented in a post about NCS. "Along with [unified] security and integrity comes a fundamental need to handle the ever-increasing capacity demanded by an ever-growing population of wireless users with equally demanding applications," he wrote. "A single-pane management console adds convenience, lowers cost (Cisco points out that generalists with the right tools can be just as productive as more-expensive specialists), and just plain makes sense ..."

Cisco isn't the only WLAN supplier taking this unifying or converging approach, as Gartner's Zimmerman points out. "We see this in HP, in Aruba, which is now offering a [LAN] switch [introduced a year ago] along with end-to-end, multivendor support," he says. "Vendors are addressing the multiple elements within this infrastructure layer."

The reality is that Cisco faces a rapidly changing enterprise mobile environment, and enterprise customers have plenty of options. Earlier this month, Aruba announced that Texas A&M University, a major Cisco shop, is replacing its existing Cisco WLAN with Aruba's products, after extensive testing. The school will eventually install 6,000 to 7,000 Aruba 802.11n access points, along with Aruba's AirWave wired/wireless network management application. ∎

WIRELESS IN THE ENTERPRISE

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How to avoid five email management mistakes

BY SUSAN PERSCHKE

EMAIL MANAGERS have a lot at stake. After all, the volume of global electronic messages sent via email dwarfs all other forms of electronic communication, including social networking. Since the inception of electronic mail, which, according to some Internet historians, can be traced to a small mainframe app called MAILBOX from the mid-1960s, human-to-human messages have been created, transmitted and stored in electronic format. But early email administrators could hardly have envisioned the complexity of current email infrastructure and the concomitant maze of technical, security, business and regulatory challenges.

Here are five common mistakes made by email managers, and how to avoid them by developing and implementing your own action plan.

Mistake 1
Pigeonholing email as just an IT function

Business managers know they have a working mail server and trusted individuals to maintain it. Box checked — or is it? The mail administrator on the IT side is charged with keeping the mail server operational, performing backups, patching servers, supporting users and all the other technical and security details that attach to mail server administration.

But these functions represent just one of the many elements necessary to achieve fully effective email management.

Corporate espionage is on the rise. According to a recent report by the U.S. Office of the National Counterintelligence Executive, "The pace of foreign economic collection and industrial espionage activities against major U.S. corporations and U.S. government agencies is accelerating." Email has been identified as a primary means of leaking corporate secrets.

In a relatively small number of cases, security breaches are intentionally committed by individuals with malicious intent, but devastating security leaks can also occur quite innocently in organizations where policies, procedures and defense mechanisms are weak or nonexistent.

Despite the fact that high-profile data thefts are made public almost daily, research shows that many email managers do not have adequate measures in place to protect against "exfiltration" of sensitive data. In a recent eMedia survey commissioned by Mimecast, a staggering 94% of network managers said they had no mechanisms in place to prevent confidential information leaving their network. Clearly there is a greater need for vigilance.

As it pertains to email, data-loss prevention (DLP) can be accomplished by inspecting and analyzing outbound email traffic (data in motion) through a variety of hardware and software-based technology solutions, combined with non-technology-based DLP policies. Several DLP solutions are built to extend common firewall platforms. A good DLP solution can also address regulatory compliance as an added bonus.

The takeaway here is that a two-pronged effort — setting and maintaining corporatewide data-loss prevention policies and deploying DLP mechanisms — is a must.

ACTION PLAN
1. Email policy administration should have buy-in from top management and be enforced at all levels.
2. Research, then implement appropriate companywide DLP.
3. Create and enforce "acceptable use" policies. For example, spell out whether users can check their personal email using work computers and whether they can use their work email for personal online business.
4. Educate employees and make sure they understand that compliance with email policies is mandatory.

Mistake 2
Complacency with regard to spam and phishing

Fifteen years ago, a single individual dubbed the Spam King easily made $20,000 per day in what is still considered by many to be the world's largest spam operation. Robert Soloway, who was eventually jailed for violating anti-spam laws, freely admits that making money on spam these days is a losing business proposition.

Indeed, technology advances, coupled with more aggressive anti-spam legislation, have made significant inroads in the battle to control spam and phishing, but the fight is far from over. A random daily sampling from mail preprocessor MailArmory in April still reported spam as comprising 87.2% of its preprocessed email traffic. But the preprocessed spam mercifully no longer lands in the user's email account. The captured messages can be reviewed and released from the MailArmory server, or simply ignored, in which case the suspect emails will be deleted.

On another anti-spam, anti-phishing front, industry titans including Google, Microsoft, PayPal, Bank of America and Facebook, just to name a few, recently collaborated to support DMARC (Domain-based Message Authentication, Reporting & Conformance).

The new DMARC specification is a promising step in the right direction that uses existing technology such as Sender Policy Framework (SPF) and DomainKeys Identified Mail (DKIM) to combat spam and phishing messages. In short, it provides a way for email senders to inform receivers that their emails are protected by SPF/DKIM and the receivers can in turn authenticate messages based on whether a message is aligned with what the receiver knows about the sender. If this standard becomes widely implemented it should make it more difficult for third-party spammers to spoof messages and have them delivered to end users.

Agari, an early developer and provider of DMARC services, currently processes more than 1.5 billion messages per day using DMARC. Agari CEO and Founder Patrick Peterson says that cleartext messaging, which is how the vast majority of email is still transmitted, is "profoundly insecure." However, in the grand scheme of things, it actually poses a much smaller risk than alternative attack methodologies currently in use, such as advanced persistent threats (APT).

End-to-end email secured communication via SSL or TLS, the putative solution to cleartext transmission, is fraught with practical snares. "It takes two to tango," says Peterson, who noted that less than one-tenth of 1% of emails are currently transmitted over secure channels. Peterson says end-to-end is primarily used by governmental agencies and healthcare providers, who are required by law to secure their communications.

Another method for fighting spam/phishing is hardware-based. David Cahill, information security officer at Irish mortgage lender EBS, says his company needed to centrally manage email security for more than 1,100 employees and chose an appliance partly because of the ease of migrating it into the company's existing email infrastructure and also the product's centralized management framework.

Regardless of the technology used to combat spam/phishing, it is still nearly

impossible to prevent at least some spam from arriving at the user's inbox. Phishing emails have reached such a degree of sophistication that in some cases they can deliver malware just by being opened, even without the recipient clicking on anything in the contents.

ACTION PLAN
1. Reduce spam and phishing messages by implementing preprocessing technologies suitable for your organization.
2. Make sure your email policy clearly advises employees on what steps to take when encountering suspicious emails.

Mistake 3
Failing to consider business-critical factors when trusting email to the cloud
Many cloud providers can help companies offload the resource-intensive job of email management. But organizations need to fully understand the impact.

Technically, the steps can be straightforward. It only takes moments to redirect MX records. But approached too hastily, the expediency of the cloud may have a downside. There are other important considerations email managers need to take into account before trusting such a vital business function to a third party.

ACTION PLAN
1. Understand your cloud provider's service-level agreement (SLA) and make sure both your organization and the provider have a Plan B in case of a service outage.
2. Make sure the host provides reliable backups and that you have adequate access/control to data needed to meet your organization's data retention and regulatory compliance requirements.
3. Ensure that the host has adequate safeguards in place to ensure DLP.
4. Perform the necessary due diligence to be able to place full trust and confidence in the provider.
5. Get legal advice to analyze impact on trade secrets or other confidential intellectual property when email is entrusted to a third party.

Mistake 4
Not protecting failover servers
Most email administrators are cognizant of the core requirements for operating a fault-tolerant mail server, including the need for one or more "failover" servers. Specified with secondary DNS MX records, a failover server is designated to handle email traffic in the event the primary server fails, until the primary server is brought back online.

The key regulations

Regulation	Email Implication	General Applicability
HIPAA Health Insurance Portability and Accountability Act (1996; email provisions took effect in 2003)	• Protect patient information • Email retention	Anyone dealing with patient information such as healthcare providers, medical billing and insurance companies
SOX Sarbanes-Oxley Act (2002)	• Provide audit trails • Ensure emails originate from a specific person • Email retention • Confidentiality requirements	Public company boards, management and accounting firms
GLB Gramm–Leach–Bliley Act (1999)	• Protect customers' financial data • Regulate opt-out and privacy policies • Mandate that organizations maintain security programs	Banks, securities companies, insurance companies
PCI-DSS Payment Card Industry Data Security Standard (2010)	• Secure and protect customer data • Encrypt data transmissions	Organizations that handle card information for major debit/credit/ATM cards
NASD and SEC regulations	• Email retention	Regulated financial services organizations
NYSE regulations	• Email retention • Content security	Companies listed on the NYSE stock exchange

Unfortunately, in some organizations the backup servers may not be up to par with the primary email server in terms of security features and outbound policy enforcement.

Given the seemingly interminable number of steps required to configure and secure a highly available email server, ongoing maintenance, etc., it is easy to understand why the seldom-used backup server may not command the same attention to detail as the primary email server. However, hackers and spammers also understand this weakness, and may use it to bypass the main email server altogether, carrying out their exploits instead on more easily compromised backup servers. These "end-run" attacks may also evade detection if the backup mail servers are not actively monitored.

ACTION PLAN
1. Make sure your secondary mail servers are as secure and up to date as your primary; patch and update them as if they were production servers.
2. Set up monitoring devices to automatically recognize and monitor the failover server when it is brought online without manual intervention.

Note: In what is becoming a more commonplace practice, to reduce the risks of vulnerable backup servers, some email providers do not use "hot secondaries," but instead utilize offline mail servers that can be promoted in the case of failure of the primary. This reduces the attack surface, but requires a rapid response if the main email host goes down.

Mistake 5
Failure to plan for IPv6
At this point, virtually no one actively involved in IT can credibly claim not to have seen the buzz about IPv6.

Even if your organization doesn't contemplate migrating to IPv6 for Web hosting and email, IPv6 migrations are happening everywhere and at some point in the near future your ISP will probably become IPv6 capable. This fact alone means your IPv4-only infrastructure could be found wanting, and may provide spammers and hackers the perfect route to the heart of your email server and beyond.

ACTION PLAN
1. Develop a plan for IPv6 in general and IPv6 impact on email specifically.
2. Update outmoded IPv4-only routers and switches that cannot perform deep-packet inspection of IPv6 traffic. ■

Perschke is CSO for Arc Seven Technology. She is also an experienced technical writer, and has written numerous white papers for a number of organizations, including Fortune 500 companies. Susan can be reached at susan@arcseven.com.

SMS a killer app at 20; irrelevant at 25?

THE FIRST SMS-capable mobile phones were approved for sale in Europe 20 years ago this month. By any measure, SMS has become a huge success, at least for the telephone companies, with more than 6 trillion SMS messages sent worldwide in 2010, generating more than $110 billion in revenue. But the future may not be anywhere near as bright because of increasing use of "free" Internet-based services such as Facebook, Apple's iMessage and WhatsApp.com.

SMS is a great deal for telephone companies. It costs almost nothing to transport an SMS message, yet the global average price for a message is 11 cents. Verizon lists its price as 40 cents (20 cents for you to send a message and 20 cents for your friend to receive the same message). And this is essentially pure profit. A great deal for the telephone carriers and an example of the lack of real competition, since real competition would drive the price of a service that costs almost nothing to provide very low indeed.

It is not quite as exploitive as it might appear since 60% or so of U.S. wireless customers now have flat rate, and frequently unlimited, SMS packages as part of their wireless contracts rather than paying per message. Some carriers, such as Verizon, have been limiting their low-cost and limited SMS service offerings, thus raising the basic revenue they can expect from the average customer.

But the relentless march of technology is beginning to impact this stream of money. More smartphone owners are using social media sites such as Facebook to communicate with their friends instead of SMS. Some are doing so to save money because there is no per-message charge for updating your Facebook page. But most are likely making the switch because they already use Facebook as their primary way to let their friends know what is going on.

There is a new class of application directed at people who actually do want to save money. WhatsApp and, separately, Apple's iMessage are examples. They also demonstrate the advantages and limitations of this approach. The biggest advantage is that they ride on top of the smartphone Internet data service and are not charged on a per-message basis. The biggest limitation is that the vendors have not yet adopted a common standard, so you can only send messages to people who have the same application.

It is fundamentally irrational to have a per-message charge for an Internet-based service — very advantageous for a carrier that could get away with it, but technically irrational in a network such as the Internet where the incremental cost of an additional packet is infinitesimally small.

This irrationality is already catching up to some telephone carriers. For example, Swisscom's SMS revenue dropped 28% in the first quarter of 2012, presumably because of users switching to Internet-based messaging services in order to save money.

The use of flat-rate unlimited SMS plans are likely to delay the inevitable for a while but, even with such plans, why spend $240 per year (for Verizon) to use a function that is enabled for no extra cost by your basic data plan and will never generate enough traffic to kick you into a higher data bracket? SMS fees will soon be just another tax on the clueless and the telephone company's only hope is that the clueless don't talk to the cluefull.

Disclaimer: Harvard likes to think that it is a place where the cluefull talk with the cluefull. If that is true, then the above would not apply, thus please assume that the above exploration into telephone company irrationality is my own. ■

Bradner is Harvard University's technology security officer. He can be reached at sob@sobco.com.

Tech managers aren't developing IT talent

BY ANN BEDNARZ

TECH MANAGERS need to do a better job developing talent, IT pros say. There's too much judgment and not enough instruction, according to new poll data from Dice.com.

The IT careers site asked about the relationship between managers and their tech staff, and unsurprisingly, most poll-takers rated it a very important (59%) or somewhat important (23%) factor in the decision to stay at their current firm or look for a new job. Just 6% said the manager-staff relationship isn't an important factor in the decision to stay at a job, and another 6% went a step further and said it's not a factor at all. (The remaining 6% of respondents are either between jobs or are the boss.)

In addition to influencing an employee's job search decisions, an IT boss has the power to influence a company's reputation and its ability to recruit tech talent, says Tom Silver, senior vice president, North America, at Dice. "Yet, when it comes to developing talent, tech managers are not making the grade," Silver noted in a report released this month.

A majority of IT professionals judge their current managers as graders (61%) vs. teachers (26%), but it's more important to create a nurturing workplace than a pass/fail department, Silver said.

"There will always be a need for some grading, but the emphasis should be on teaching. Tech professionals do their best work when it's a safe environment to try new solutions, explore alternatives and fail," he said. "Over time, wisdom gained equals fewer mistakes, cutting quickly to the best solution and increasing production. That's a pretty good payback."

If tech employees don't feel valued, they're going to jump ship. Turnover has fallen below average for 41 months in a row, according to the U.S. Bureau of Labor Statistics, but tech managers can't count on a struggling economy and tight job market to keep their departments staffed. Good talent will flee, Silver said.

"Frankly, companies haven't felt the repercussions of subpar workplaces in the last three years. But, the gap between the importance of the employee-manager relationship and the way it's developing is unacceptable. Both sides need to remember this is a lasting connection and one worth the effort."

As of May 1, Dice.com lists 84,911 available tech jobs on its site. The top tech metro areas, based on the number of open jobs compared to a year ago, are: New York/New Jersey (9,005 jobs, up 1%), Washington, D.C./Baltimore (8,063 jobs, up 10%), Silicon Valley (5,620 jobs, up 21%), Chicago (3,731 jobs, up 10%), Boston (3,290 jobs, up 15%), Los Angeles (3,267 jobs, up 5%), Dallas (3,237 jobs, up 24%), Atlanta (3,196 jobs, up 17%), Seattle (2,993 jobs, up 23%) and Philadelphia (2,379 jobs, up 7%). ■

TOOLS

An OS for the home and cool Kickstarter projects

This week we start with something that has both intrigued and amused me: Microsoft Research has a new operating system in the works targeted at home automation called, with glaring dullness, HomeOS.

Microsoft says, "To simplify the management of technology and to simplify the development of applications in the home, we are developing an 'operating system' for the home. HomeOS provides a centralized, holistic control of devices in the home. It provides to users intuitive controls to manage their devices. It provides to developers high-level abstractions to orchestrate the devices in the home. HomeOS is coupled with a HomeStore through which users can easily add/obtain applications that are compatible with devices in their homes and obtain any additional devices that are needed to enable desired applications."

What intrigued me about this project is Microsoft is surprisingly late to a market that has yet to really take off. Perhaps Microsoft thinks it can give it a push start.

But I am also amused by the name. Running the operating system name past various friends, they either pronounced it "ho-me-oss" or, worse

Mark Gibbs' Gearhead

still, "ho-moes."

So, I have two Kickstarter projects that you should look into. The first is the HAND Stylus, which looks like it will be the capacitative stylus I've wanted since I first got an iPad. The problem with the current styli I've tried, is they feel more like using a banana than a pen. Styli such as the TenOne Pogo Sketch Plus ($15) are OK for some purposes (painting apps and simple graphics), but they feel nothing like a regular pen on regular paper.

With a 4mm tip (roughly 30% smaller than any other stylus I've tried) the HAND Stylus promises to be a vast improvement over other designs. The HAND Stylus also looks great, rather like my favorite mechanical pencils made by Rotring (I studied architecture back in, oh, the Pleistocene era, and Rotring was the Rolls-Royce of drafting pencils).

As with other Kickstarter startups, you can support this project for as little as $1. Actually, even if you don't personally get involved, the HAND Stylus project will happen because, as of this writing, over 1,800 backers have committed more than $74,000 ($25,000 was the original goal) and there's still more than 30 days until the project's funding date of June 17. Can you say "pent-up demand"?

The other Kickstarter project of note is Wovyn, started by my old friend Scott Lemon (who I've known since our Novell days 25 years ago!). This project is actually related, potentially, to Microsoft's HomeOS, in that it enables the connection of the real world with the online world.

Wovyn is an "Internet of Things" concept and consists of a gateway device that communicates wirelessly with a large range of sensor types (30 different types are either ready or in development, including sensors for temperature, humidity, magnetic, light and acceleration). The gateways communicate with networks either over Wi-Fi or via a Windows, Linux or Mac computer using a USB connection.

The idea is that you'll be able to "scatter wireless sensors all over your home or business ... or even outdoors." The project suggests, "If you want to know if your freezer door is open OR your basement is flooding OR if your front door just opened, that's THREE SEPARATE SENSORS - Wovyn allows you to do all that for under $200!"

Wovyn consists of a gateway device that talks with a large range of sensor types.

What can be done with the sensor data? The project explains, "we let you create rules of what you want Wovyn to do when it senses different things. Sure, we can do Email, SMS, Twitter and Facebook, but we also allow you to connect to several of the top Internet data services like Pachube (now Cosm), Sen.se, ThingSpeak, and Kynetx with a few clicks on our portal! Simple! ... and this is where it really gets good ... we provide full support for REST/WebHooks, EventedAPI, and MQTT so that you can point Wovyn and your sensor data at your own software ... or at software that we haven't even thought of yet!"

Wovyn's Kickstarter fund raising ends June 24 and so far 45 backers have pledged almost $8,800 toward the goal of $100,000 with less than 40 days to go. This project looks promising and hopefully folks with far deeper pockets than mine get involved. ∎

Gibbs keeps his ear to the ground in Ventura, Calif. Tell him what you hear at gearhead@gibbs.com and follow him on Twitter (@quistuipater) and on Facebook (quistuipater).

The HANDStylus is a vast design improvement over current styli.

GADGETS

Enhance your videos with handy time-lapse camera

Keith Shaw's
Cool Tools

THE SCOOP

TLC200 time-lapse camera

by Brinno, about $200
(available at smartecstore.com)

▶ **What it is:** About the size of a Cisco Flip portable camera, the Brinno TLC200 lets you take time-lapse and stop-motion videos (stop-motion with the help of an optional shutter accessory) quickly and easily. At the press of a button, you can begin recording video at set time intervals (for example, two seconds, three seconds, five seconds, one minute), and then press again to stop. The camera is powered by four AA batteries, and comes with a 2GB SD memory card. It can record to AVI movie or .jpeg photo format, with 1280-by-720-pixel resolution (720p) or 640-by-480-pixel resolution (480p).

Settings on the camera let you adjust the interval at which the camera records, as well as adjust for low light, frame rate and whether you want a timestamp on the video. The timestamp setting is nice if you want to use the camera for security footage purposes. The camera can be mounted on a monopod or tripod in case you want to create long-lasting time-lapse videos, and the camera lens can rotate vertically if you want to record the sky. The camera comes in two different color options: blue/black or green/white.

▶ **Why it's cool:** The ease with which you can create time-lapse videos make this camera a must-buy. Other cameras and camcorders may have time-lapse functionality, but it's usually hidden within their other features. In addition,

you can record a segment and then condense the video in video editing software, but the results aren't as smooth as what you get with this camera.

When I used this camera, I was able to get lots of time-lapse videos at a trade show for use as B-roll footage, and I could also create quick-and-fun music videos (for example, I placed the camera on my car's dashboard and recorded a trip to the grocery store and back, and then added a soundtrack via YouTube). With the optional ShutterLine accessory ($20, model ATS100), I could use the camera to

create stop-motion animations. If you have the patience for such an endeavor — you still have to move your objects by hand — this camera can help you achieve your animation goals quite nicely.

Video enthusiasts will appreciate having this camera in their arsenal for creating additional footage quickly and easily. The more you play with the device, the more ideas you end up getting on creating time-lapse or stop-motion footage.

▶ **Some caveats:** The software on the camera could be improved to let you view your footage on the camera instead of transferring the files to a computer for viewing. To save battery life, the image on the screen goes away when you're recording, so it was hard to tell after a recording session whether I succeeded or failed until I checked the footage on my computer. In addition, the instructions have some language translation issues — Brinno is a Taiwan-based company and some of the instructions are confusing.

▶ **Grade** ★★★★✦ (out of five)

Shaw can be reached at kshaw@nww. com.

techdebate

iOS vs. Android in the enterprise

We turned to a company, MEDL Mobile Inc., which develops mobile apps for both platforms, to get opposing views on these popular platforms. (For more information about MEDL Mobile please visit http://www.medlmobile.com.)

iOS is the only choice

Jeffrey Berthiaume, vice president of technology at MEDL Mobile

IT DEPARTMENTS, WHICH NEED TO balance security with the desires and needs of corporate users, have been debating the merits and drawbacks of iOS ever since the iPhone launched (or rather, since executives started buying them and demanding access to corporate infrastructure).

At the time, BlackBerry devices were most commonly used for corporate use — they supported email and light Web browsing, and had a number of security options.

Today, iOS answers those enterprise needs and a few more that the BlackBerry and even Android-compatible devices do not. After all, business users are looking for a lot more than simple email. They want access to social networks, they want to be able to read and participate in different online discussions, they want to be able to use custom applications created for their workplace, and they want to access enterprise-level applications like SAP Crystal Reports and Salesforce.com.

No other existing mobile platform, including Android, can accommodate everything iOS can.

For business owners, iOS delivers:

- Email: iOS supports Microsoft Exchange accounts, and also supports ActiveSync, which allows contacts, calendars and email hosted on existing enterprise Exchange servers to be pushed to any iOS devices.
- Documents: Email attachments with Excel spreadsheets, PowerPoint presentations and Word documents can be easily viewed without having to download any additional software. Apple's iWork suite supports document editing, which also can be exported into Microsoft formats.

From an IT perspective, iOS offers:

- Security: iOS apps are restricted from accessing data from other apps, which guards against malicious third-party apps accessing sensitive corporate data. Devices can also be remotely locked (or even wiped) if lost or stolen using mobile device management. Additional security measures allow the

Android provides it all

Dennis Baliton, senior app manager at MEDL Mobile

ANDROID OUTSHINES IOS IN THE enterprise for a variety of reasons, chief among them being the fact that it is an object-oriented architecture based on the mature Java language. Being open source, developers around the world are contributing to and improving Android every day. That helps account for Android's staggering market share. Even though Android is a relative newcomer, it already has half of the market for mobile devices, while Apple has slipped down to a 30% share.

Java's portability also means the Android framework can be run on a range of hardware, including devices from Samsung, LG, Motorola and HTC, and can be picked up by any hot newcomers. That means Android is not limited to a single mobile phone, tablet and music player and, what's more, can be integrated with embedded hardware such as monitoring equipment, automated processes, robotics, etc.

The Java language is mature and well documented, and much of the functionality of this robust language has been ported to the Android framework. This allows developers to easily find APIs for their specific needs. From creating a custom bitmap to leveraging helper functions, Java allows for a smoother experience for developers and engineers.
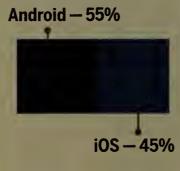
The Java language's maturity also means there are many talented Java developers who are working toward Android's success, versus the few Objective-C developers who can only develop for Apple products. Any iOS features have been, or will be, ported over to the Android framework.
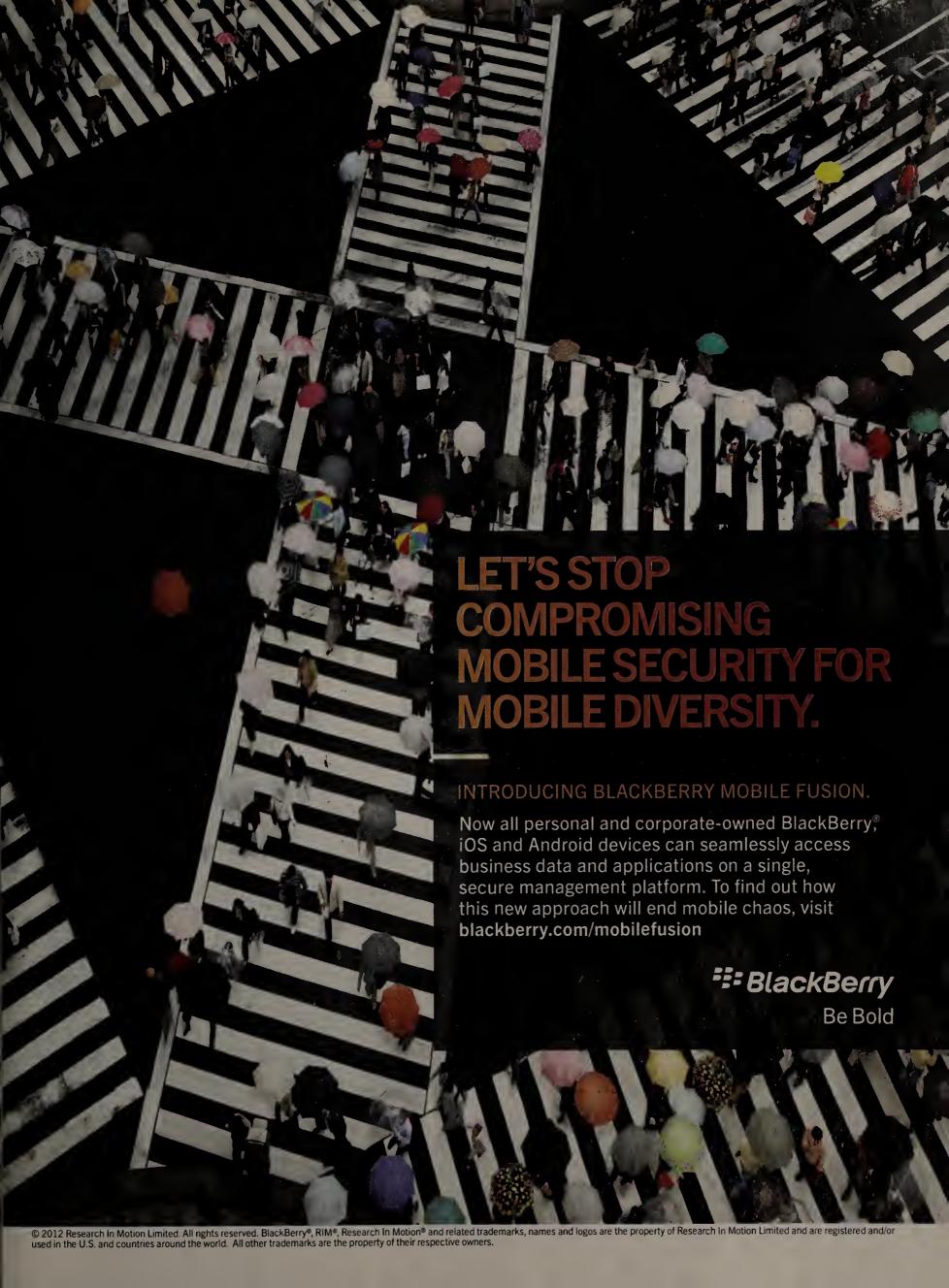
What's more, Android can leverage a wealth of enterprise J2EE back-end services, whereas iOS is only now offering enterprise-focused services. The J2EE standard represents a collaboration between leaders from throughout the enterprise software arena and Android can take advantage of existing J2EE architecture by using native connectivity to back-end Web services, enabling the development team to focus mainly on the mobile application's user interface.

Which platform is better?

Android — 55%

iOS — 45%

Cast your vote and see comments at
tinyurl.com/cgnxjyv

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Be Bold

▶ **iOS,** *from page 20*

management of devices (via over-the-air policy enforcement), the network (via SSL/TLS), local data (via built-in hardware encryption) and platform security, which "sandboxes" each application so data cannot be transferred or accessed by the wrong application.

▪ Exchange ActiveSync, LDAP and CardDAV: Corporate directory information can be accessed through the iOS contacts app through Exchange ActiveSync as well as open-source LDAP- and CardDAV-enabled accounts. In fact, iOS can be used to integrate with any standards-based mail and calendar environment.

▪ VPN/SSL VPN: Depending on what is implemented internally, enterprise users can access their private corporate networks using IPSec, SSL VPN or WPA2 Enterprise Wi-Fi.

▪ Product life cycle: iOS updates have historically supported current devices as well as those introduced in the last two to three years. Android devices are at most "compatible" with each other, and even different devices with the same version of the OS might still perform differently.

▪ Remote configuration: iOS devices can be remotely configured to handle changes in mail settings, Wi-Fi settings (both internal and public), parental controls and application installs (both from the company and from the App Store), and manage other enterprise access restrictions (such as disabling app installations, or blocking applications such as YouTube or Facebook). Remote deployment of in-house apps is also supported. In contrast, each type of Android device would need to be configured and supported internally — and with the different vendors (HTC, LG, Samsung, etc.) as well as mobile providers (Verizon, AT&T, Sprint, T-Mobile, etc.), there is too large a universe of SKUs to evaluate and support.

With the number of iOS products available in the marketplace, it makes sense for IT to embrace iOS and firmly integrate it into their enterprises' needs. The Android OS is too fragmented, potentially insecure, and simply not stable enough. ■

▶ **Android,** *from page 20*

This legacy also means there is a generation of traditional Java developers who are able to easily transition to become mobile Android application developers by simply learning the Android framework and leveraging free development platforms and documented libraries.

Java teams have long been spoiled with free development tools that give them a complete development environment, and a basic Android environment can be set up by downloading the Android SDK and tools for Eclipse for any operation system: Windows, Mac OS or Linux. Everything is free and, with a little bit of elbow grease, you can get up and running in about an hour.

This familiarity with Java's vast array of libraries, frameworks and tools allows teams to reuse existing infrastructure for solving most common use cases. In many cases, there is more than one good choice for addressing a particular need.

Taken together, the Java base makes it much simpler for companies to use existing infrastructure — database, service layer and application server — as the backbone for Android applications.

For a newcomer, Android has already garnered an incredible share of the market for all of the reasons outlined, and it still has a lot of room to grow. This, coupled with the fact that Android can be run on multiple types of hardware, promotes market competition that safeguards against monopolization of the emerging mobile device markets, and spawns creativity among hardware and software companies.

In the race to be the leader in mobile operating systems, Android is a true contender with its ability to leverage the portability of Java and the strength of a global community of developers with its open source platform. The bottom line is that any app you can develop for iOS can also be done for Android. ■

➔ **Send Debate Suggestions** to jdix@nww.com

Apple does a great job

➔ As a user of both within the company (Android smartphone and iPad), the only real advantage I see is that regardless of the service provider/vendor Apple does a great job in providing iOS updates in a timely manner. With the Android, even though I have one of the most popular and latest phones, the wireless provider refuses to provide updates (like ICS) until it places its version there, which typically breaks things. If it tried that with Apple it would get told to take a hike! **GARY**

Android is easier to learn

➔ I am a dedicated mobile developer, both Android and iOS. I love both platforms. Android was easier to learn and supported by a wide variety of hosts. iOS is somewhat more difficult to work with due to the tightly controlled development and distribution model. Android's strength in diversity is now a serious flaw in security. Keylogging software is no more just a theory, it's a reality. There is no model in place for updating security on the myriads of customized and outdated Android roms now live in the field. What was perceived as Apple's chokehold on development is now its salvation. This is where the tightly controlled iOS platform wins, and Android loses. **CHARLEY JONES**

Java is not a differentiator

➔ I read this article right after seeing a demo of iOS management suite. It wasn't as robust as desktop management and isn't everything I think one needs for the enterprise but it is a start. Now, the commentaries: Berthiaume listed many of the features that he believes makes iOS more enterprise ready. Baliton countered that Android is more common and uses Java. In other words, Berthiaume listed actual advantages. Baliton listed a tool. And it is also a poor tool to differentiate yourself with when, even though Android has more installations, it still lags in apps and development. **MICHAEL LAMPHAM**

iOS has been far simpler

➔ I love Android. I use it for my personal devices and like it far better than iOS. For managing devices in the enterprise, however, iOS has been far simpler with better capabilities. The policies are more polished, there are more options for managing apps, deployment of the devices are easier, there are fewer gotchas, etc. We will deploy Android devices as well (as the platform matures) but iOS is just better in almost every way right now (for business purposes) and therefore we are recommending them almost exclusively. **CHRIS FRICKLE**

Consider desktops in the cloud for BYOD

Five DaaS vendors deliver Windows desktops to any end user device

BY TOM HENDERSON

Desktop as a service is an interesting way for IT execs to provide cloud-based Windows desktop sessions, as well as shared resources such as storage. DaaS can help companies roll out new desktops and support bring-your-own-device policies.

DaaS or hosted virtual desktop (HVD) providers offer a pristine, policy-controlled session (either persistent or ad hoc) that can be accessed by a wide variety of devices. If you have a new iPad and a Bluetooth keyboard, you're in. Mac? You're in. An old and wheezing Windows XP patched-to-death machine? You're in. The machine used to access a DaaS session is largely irrelevant to the session's use, which can be for standard "office" functions, or as part of an application-specific setup.

The products we tested ranged from simple to comprehensive. All of the DaaS service providers in our test — Desktone, dinCloud, ICC Global Hosting, Applications2U and Nivio — used a Citrix infrastructure to provide desktop sessions. But each of them arrived at their product offering from a different perspective, and sometimes, with a different attitude.

For this test, we accessed cloud-based sessions in three different ways: Comcast residential broadband, Comcast "business" broadband (higher data rate), and through several different VM configurations via our data center installation at nFrame in Carmel, Ind.

We liked Nivio for its very simple configuration. And Nivio's "happiness messages" (headers and banners that customers could configure with their own slogans) showed that it wants to appeal to more than just stodgy geek-types. DinCloud had strong and fast performance.

Desktone was highly configurable. ICC Global Hosting (ICCGH) had a strong vertical application feel, and Applications2U seemed targeted toward independent software vendors (ISV) and application providers that prefer an entire desktop offering rather than just a Web-based app.

Some of the service providers in this test have an involved customer intake process (Desktone, dinCloud and ICCGH), while others were more like "desktops on the hoof" (Applications2U and Nivio). The intake process is important for several reasons, as the number of decisions that need to be

ILLUSTRATION: SAM BOSMA

NETRESULTS

Product	Applications2U	Desktone	dinCloud	ICC Global Hosting	Nivio
Pros	Hosted desktop or Windows Apps; backup/hot-site resources available	Good portal-based administration; easily managed instance configuration	Quest vWorkspace access offered good control; very fast response	Very fast, easy local resource control	Has a 'retail' feel, ad hoc spontaneous
Cons	Lacks strong password enforcement	Lacks strong password enforcement	None	Plain vanilla experience	Took the longest to load a session

Prices are changing quickly; refer to vendor websites. Most vendors have a setup cost and per-desktop cost, with added possible costs for additional features and applications. Pricing, we found, is usually transparent.

made prior to deployment require planning and thought.

We could only find support for hosted Windows (Windows 7 and Windows 2008 R2 "terminal") sessions. You can't find Mac OS because of Apple's licensing constraints, and hosted Linux sessions are difficult to find.

In terms of productivity applications, most of the vendors could supply Microsoft Office and SharePoint. They also expressed a willingness to brand DaaS desktops with organizational logos, "stock" applications and resource links, as well as to negotiate pre-loaded software for both persistent and ad hoc sessions.

How DaaS works

In the simplest form, DaaS is like Remote Desktop Protocol (RDP), Virtual Network Computing (VNC) and similar provisioning that dates back to the pcAnywhere days, where you got screen, keyboard and mouse (at minimum) connected to another computer.

Today's iteration is virtual desktop infrastructure (VDI), which includes the basics, plus sound, local drive and local ports (like USB). VDI can be accomplished on-premise or in the cloud.

DaaS service providers are the gateway for cloud-based connectivity, which includes virtualized desktop sessions and applied administrative constraints. The selling points are hosted external applications, shared storage resources, joining DaaS resources as extensions of an existing (or new) Active Directory infrastructure, and extended device compatibility in a BYOD scenario.

Here are the individual reviews:

Desktone

Desktone uses Citrix components mixed with its own desktop portal and management infrastructure. The Citrix pieces, including session access applications like Citrix Receiver, give remote users choices for what kind of device, such as a Mac or a Windows XP client, might be compatible with a Desktone-hosted Windows 7 session.

Hosted sessions can reside in an isolated Active Directory or workgroup environment, or could be connected via a VPN (many types are supported) linking Desktone's provisioned desktops and network with a customer network.

VPN connectivity can be problematic because of the varying types of VPNs possible. Those connected with firewall and VPN appliances are said to be the most easily (and quickly) deployed.

SCORECARD ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||

Product	Applications2U	Desktone	dinCloud	ICC Global Hosting	Nivio
Client Options (25%)	4	4	4.5	4	4
Management (25%)	5	4.5	4.5	4	4
Compatibility (25%)	4	4	4	4	4
Speed * (25%)	4	5	5	5	5
Total	4.25	4.37	4.5	4.25	4.25

* Subjectively measured by observations from broadband-connected devices, as well as VMs connected via our NOC at hosted provider nFrame.

The customer intake process revolved around deciding on networking characteristics, choosing different hosted desktop variants based on an average installation, then upgrades to hosted sessions based on memory, disk and number of CPUs (up to four) that would be hosted on Desktone's cloud, which consists largely of blades in a multi-tenant environment.

Like several other DaaS service providers we tested, Desktone has an administrative portal application to manage DaaS operations security and asset formation (making customized versions of Windows 7 for DaaS access). Also, like other DaaS service providers tested, we found we could join our Active Directory network logon characteristics if needed; a network "join" is available for VPN purposes, too.

The Desktone portal allowed us to check site configuration, desktop asset distribution and pools, which are aggregations of resource groupings. Pools allowed us to differentiate RDP-connected machines by resources, like local-to-session clipboard, drive, printer, smartcard or COM port connectivity.

Dividing pools in this way allows an organization to create Active Directory pools, then to differentiate between persistent and non-persistent sessions, and then to aggregate local resources.

Desktone provides the ability to try the instances prior to deployment by administratively accessed instances that use Windows Sysprep.

The landing URL (the starting page that clients access via a browser) can be customized with organizational logos and imprints. It's also possible to link to third-party trouble-ticket applications and systems management applications. We found out about Desktone through an announcement by Quest Software that its applications will soon be able

to resource-manage Desktone's portal and DaaS resources under its "umbrella."

The Citrix infrastructure helps expand accessibility; common desktop operating system browser connections are available, as well as various Citrix Receiver clients for devices ranging from iOS and Android through Linux, Mac OS and, of course, older and newer versions of Windows. This would also hold true for other DaaS service providers we tested.

The Desktone speed was very good in our light performance testing, and we encountered no difficulties using Windows 7 instances. We'd like to see stronger password and smartcard use, as we could change passwords to those easily cracked by dictionary attacks, although passwords are wrapped by the default HTTPS session encryption.

Desktone was fast and easy to provision, made easily accessible by the largely Citrix-based connectivity infrastructure. Performance was good, and extensibility to existing networks should be simple.

dinCloud

The dinCloud client is vWorkspace from Quest Software. On Windows clients, that means Flash is used, although there are other client-types that don't use Flash, like the iPads and other devices under iOS and Linux. The vWorkspace software gave us a rapid access under Windows 7, but requires a few user-side settings (that can be scripted, if you're gifted) on other platforms. The results, however, are pretty spectacular for users.

If you've used Windows 7 on a desktop or notebook, subject to your connection speed, you get an identical experience. Our connection was fast, and it was difficult to tell that it wasn't the resident host operating system on our clients. The caveat is that we have a strong broadband connection and couldn't detect any

latency at all. Those with slower connections or congestion may experience weaker response. Those searching for a remotely hosted Windows 7 session that feels like a hypervisor-based Windows 7 session will be pleased.

The administrative experience for din-Cloud is very simple, and it's not for civilians, although civilians/users can be given policy-controlled choices. DinCloud presented us with an organizational URL and a base set of users; then we were required to update to Adobe Flash Player 10+. The yourorg.din Cloud.com landing URL was called, a link was provided and the sessions began.

The vWorkspace client supports RDP, ICA and even VNC (although potentially unencrypted) access protocols, and logged us on quickly, but it took a bit of work to get Firefox 11 working; IE8/9 worked easily to access sessions.

The Quest vWorkspace client supports device sharing; it's possible to administratively permit/allow sharing of local drives, printers, COM ports, smartcards, USB devices (where Windows 7 supports them), "universal printers" (print to PDF, etc.), microphone and interactive clipboard contents. Screen sizes can be autosized or forced to default geometry. We could also set performance optimizations and add various speed enhancements, including media player redirection (Windows Media Player pops up locally, if available, rather than needing to drag it through the session connection).

Overall, dinCloud was fast, and the intake process was professional and showed skills at varying architectural possibilities. If we wanted to rapidly join a flock of policy-enforced, yet generic Windows 7 desktops together, dinCloud would be our choice.
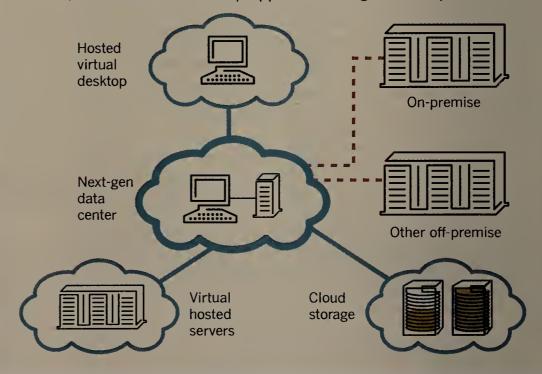
Nivio

The Nivio experience was different than the other DaaS providers, following a model that's very retail-like on the surface, but had some depth of configuration. Based on Citrix XenServer, Nivio used a commodity-based session model for its desktop services. You can get persistent or non-persistent sessions, rent or license apps, and use the session-spawned "nDrive" to save and collaborate pre-loaded or production data among groups of users. The feel of Nivio is more ad hoc and spontaneous. There's an "nApps" store, an organizational URL yourorg.niv.io, and the nDrive. The "n" theme was catchy; some will find it gets old to them.

Nivio doesn't provision standard Windows 7 sessions. Instead, we got terminal-server-like sessions running on Windows 2008 R2 Server. Nivio uses Ericom AccessNow

How desktop-as-a-service works

Hosted virtual desktops connect to a next-gen data center in the cloud, which delivers desktop apps and storage to enterprise devices.

2 graphics acceleration server for HTML5 graphics speed enhancement, a product we saw in a prior edition (and earlier stages) in our coverage of VDI server infrastructure.

Nivio eschews typical Citrix XenServer client infrastructure, and used Adobe Flash-based browser access or HTML5 browser access. Flash adds compatibility but at the potential sacrifice of non-Flash client-types — but it's possible to use an HTML5-compatible browser (apparently IE9 is incompatible with Nivio's software) to log on to a virtual Nivio session. We ran into some access problems with Firefox 11, but Nivio proved to us that there's a bug in Firefox 11 in which mixed SSL-encrypted and non-encrypted data aren't correctly handled from their perspective; perhaps it's fixed by the time you read this, but we found the portions of the session used were encrypted correctly, just not reported by Firefox as encrypted.

The sessions are hosted in turn on a Windows 2008 R2 server, terminal server-style. The sessions were highly policy controlled, but contained a full payload of standard-issue Microsoft Office apps. If you use Windows, you're in Windows and no retraining ought to be required to make use of the Citrix Windows session UI.

The Nivio nApp offerings were divided into several categories, including free and rentable. While the list wasn't very long, we found its inclusion interesting in the face of
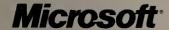
other application stores like iTunes or Google Apps Marketplace. If you want to use free office applications, several choices are available, as well as familiar Microsoft Office at a rental price.

In use, Nivio was the longest to load a session unless it was a persistent session (which still takes a little time to set up). That said, the length of time was less than half a minute, and sessions performed well according to the benchmark we used. Nivio has a youthful appeal to it that betrays its depth of configuration. It was refreshing.

ICC Global Hosting

ICC Global hosts a number of line-of-business applications for a variety of ISVs and says its "sweet spot" is sessions for five to 500 users. Like others in our DaaS testing, ICCGH uses Citrix infrastructure, and after a customer intake and provisioning process, we logged on to Citrix XenApp.

As with others that we tested, Citrix XenApp provisioned us with a Windows 2008 R2 "terminal" session, and it was extraordinarily fast, due to a short four-hop connection between our facilities in Bloomington and from nFrame, our hosting facility in Carmel, Ind., and their sites in Atlanta and eastern Kentucky. Others may have our experience depending on their connectivity. The XenApp software is available for a variety of Windows and Mac hosts, and we found
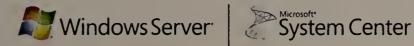
all of them — Mac OS, Linux, Windows and Android, via Citrix Receiver, equally featured in terms of resource sharing and speed.

After an initial provisioning exchange, we were given a URL, logon and initial passwords. From there, all was lightning fast, and the plain-vanilla Windows-over-Citrix experience. ICCGH was otherwise fastidious regarding building up the provisioned desktops quickly, and has experience in multi-tenant, ISV environments.

ICCGH also has experience in putting together a variety of Active Directory environment extensions, or isolated, server-based authentication mechanisms through the use of VPNs. A number of VPN configurations are supported, including IPSec, GRE and PPTP, that allow "islands" of resources to be connected (or not) for extension, isolation or application-specific off-premises pools of resources.

Like other DaaS provider services tested, ICCGH can make available local resources such as disk storage, USB, printers, etc., or otherwise control them through either customer-supplied policies or those imposed by Active Directory connections. Microsoft-savvy admins will feel at home.

Applications2U

The Applications2U (A2U) environment is also underpinned by Citrix infrastructure, and downloads Citrix Receiver on initial access for users. There are a wide variety of compatible Citrix Receiver clients available — meaning Windows machines, Macs, iOS and Android; some of the clients are more difficult to install than others, but Windows and Apple users shouldn't have much problem.

Applications2U with Citrix Receiver allows a fully virtualized desktop experience, and/or allows only Windows-compatible applications to be accessed. The apps-only experience is A2U's secret sauce (a version of XenApp is also offered by ICCGH that provides a similar service), and it's done well. Using the Receiver, remote applications can be launched on a Receiver-launched device, rather than an entire Windows 7-ish desktop. This permits "foreign" applications to run wherever communications and security mandates permit.

Receiver-launched applications could be a simple Excel spreadsheet, an SAP application, something .Net, or whatever might run on the hosted virtual session, in isolation from most of what happens on the client-side environment. The DaaS is in the cloud, or just a cloud-hosted application within A2U construct.

While Applications2U stresses managed service provider (MSP) services, we confined our use and testing to application and hosted

How we did it

We noted the customer intake procedures for each of the five DaaS vendors, focusing on what options and what type of process were used. We set a platform consisting of several Windows 7 virtual machines, as well as a Lenovo T520 running native Windows 7, another T520 running Linux Mint 2, and three MacBooks running Mac OS 5, 6 and 7 respectively, as well as an Apple iPad running iOS 5.

We downloaded the client software, usually Citrix Receiver (see individual product descriptions), then configured the clients. Our virtual machines accessed sessions that we spawned using our network operations center at nFrame, which hosted the Windows 7 client-sessions atop VMware ESXi, through an Extreme Networks switch, and nFrame's GBE backbone. Clients in our lab accessed sessions via our Comcast 1.5Mbps broadband connection.

We noted the application software payloads available, and asked for Microsoft Office; in all cases, MS Office 2010 was provisioned. We edited documents embedded with .jpeg pictures and noted how smooth the DaaS session scrolling was through embedded .jpegs and other graphics. All had approximately the same smooth scrolling. We then noted any special shared storage capability, and tested the storage by storing and reloading files that we'd uploaded.

virtual desktop use. A2U uses SunGard as its hosting facility. The customer intake process was poised toward setting up extensions of existing resources, but also duplication of internal infrastructure for use as disaster recovery "hot site" use, or other alternate use.

Like other Citrix infrastructure tested, A2U allows resource sharing, local or A2U-hosted. Like Nivio, the A2U-based storage can be group-shared, we found, as well as policy-enforced (optional) local resource sharing, drives, printers and the like. In testing, configuration and deployment was fast, and responsiveness was very good. The A2U cloud-hosted sessions were quick, and we were reminded of our Desktone experience.

We did not extensively test hosted applications, and we did not try to pen-test applications hosted via the virtualization provided by the Citrix Receiver application. Apps hosted by A2U have moderate isolation from whatever's going on in the client's hardware and OS environment, but application sessions may be subject to client-side keyloggers or other entrapments that might make them insecure. However, we could find no current CVE notes that portend that Microsoft Office applications are remotely exploitable when hosted elsewhere from a virtualized access. Only the client host, via Citrix Receiver, receives an infection vector. Applications virtualized by A2U aren't necessarily immune from BYOD connection malware. Communications to A2U hosted components were fast, and logon to A2U resources was equally fast.

Applications can be placed in user desktop

menus like other applications, and only possible latencies betray the remote execution of the application.

We found Applications2U both resourceful and responsive. Like ICCGH, A2U seems targeted toward larger organizations and vertically integrated Windows applications and the experience was both efficient and drama-free. We like that.
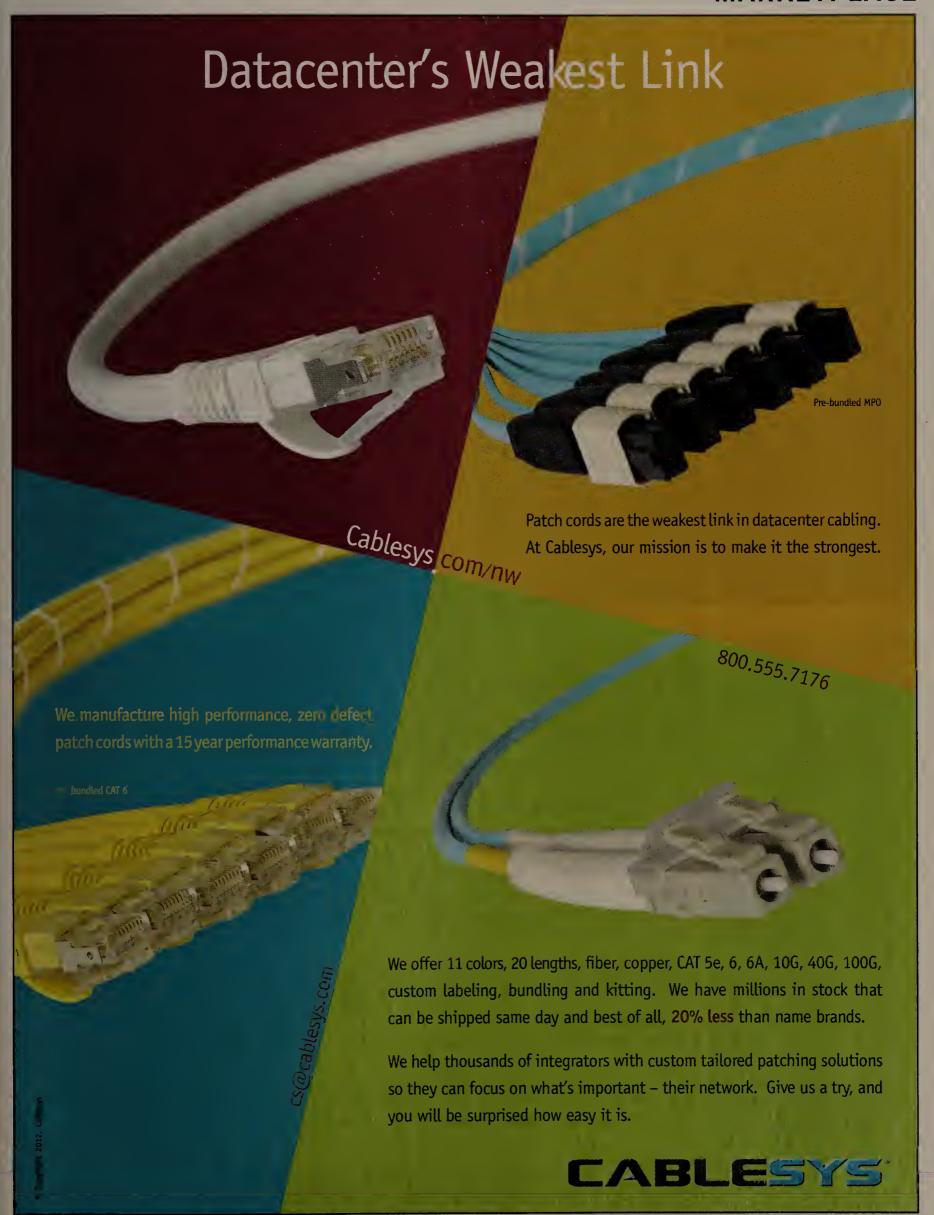
Overall

While it seemed as though we were reviewing Citrix DaaS, we found much differentiation among the vendors. Desktone and dinCloud were easily provisioned and fast. Applications2U had a bit of useful option shock, but also the secret sauces of application virtualization specialties, as well as ready-made options for alternate/hot-site capabilities. Nivio had HTML5 access going for it, and had our vote for something that was actually "fun." ICCGH, like Applications2U, performed well.

A final word of caution

Three of the five service providers we tested had issues with TLS/SSL certificates. All the issues that we ran into were corrected quickly. Administrators are cautioned to initially, then randomly check for TLS/SSL certificate validity (and correct chain of certificate authority) when accessing through browsers. ∎

But the Bob's Stores Facebook site, especially, needs constant attention for security reasons because fraudsters have been known to attempt to lure visitors to "various traps anywhere around the world," Baitch says. "We try to work hard to make sure none of our customers are put at risk."

This is the kind of danger for business that comes with social media, says Charles Renert, vice president of Websense security labs. "Video lures" have become one of the biggest threats on social media. "It's all about social engineering and the lures," he says.

While Bob's Stores uses social media to draw attention to sales at its stores and e-commerce website, for instance, the apparel retailer does not often favor its employees using social media.

The acceptable-use policy the company established generally prohibits employee use of social media unless the job function calls for it, Baitch says. To enforce that, Bob's Stores makes use of the Websense security gateway dubbed Triton to block employee access to Internet-based social media via the corporate network resources.

Baitch says the main rationale to block employee access to social media is that the company would appear to bear legal responsible for any employee's wrongful or reckless behavior, if it occurred, if the employee were using the company's network. But if an employee, aware of corporate policy making social media off limits, did something wrong using their own network resources, the liability risk would more squarely rest on the employee.

Concerns about safeguarding customer data according to the Payment Card Industry security guidelines also influenced the decision by Bob's Stores to keep employees off social media. The company is so concerned that it might be possible to get by the Websense gateway, it's also investigating use of whitelisting technologies to lock down corporate computers.

Social media is important in other areas, such as sports, too, where there are also risks.

"Social media is big, like Twitter and Facebook," says Bill Bolt, vice president of IT for the Phoenix Suns NBA team. "And now there's Google." It's now common practice to interact with fans, tweeting team news and posting video interviews with the team's stars, such as Jared Dudley and Steve Nash, or selling game tickets through direct interaction online.

But when big playoff games are scheduled between competing teams, things can get pretty wild among the fans on all sides. "Some

of this crosses the line," says Bolt, noting the Phoenix Suns dedicate resources to screening and eliminating expressions of virulent hate or verbal abuse coming in through Facebook and other sources.

Finding the right balance between allowing or prohibiting employees to use social media has been an evolving process over the years for many businesses.

At Summa Health Systems, the healthcare provider in Akron, Ohio, the network systems engineer there, Mike Wade, says management has typically viewed social networking for employees as "wasting time" or a potential for "mistakes." At first Summa Health Systems tried blocking it through a traditional firewall, which didn't always work since "people found a way around that."

Currently, the healthcare group uses a Palo Alto Networks next-generation firewall (NGFW), setting fine-grained controls on social media application usage for each employee. Policy has evolved to allow human resources, research and management to make some use of social media, though for the hospital clinical staff, sites such as Facebook, MySpace and Twitter are still off limits.

Sensitivity to privacy guidelines in the Health Insurance Portability and Accountability Act regulation plays a big part because if any information about patients turned up on social-networking sites, that could be a serious legal problem. Summa Health Systems is starting to make use of a "Web DLP" function in the Palo Alto NGFW as a data-loss prevention function to monitor for outgoing patient data and block it. The hospital is also looking at deploying desktop-based DLP for the same reason.

Some consultants express some doubt that technology is the main answer to keeping employees from doing foolish or wrong things on social media that will harm their companies or themselves.

Gary Loveland, principal, national security leader at PricewaterhouseCoopers, says the chief concern about social networking is that sensitive information could be shared outside on social-networking sites when it shouldn't be.

But just setting up the equivalent of a corporate blockade to social media is a "limited" approach at best, he says, for the obvious reason that someone can get to Facebook or other sites using a personal mobile device or a home network. Security education of employees from the day they are hired is necessary to drive the message home to them about the risks that social media pose, even while businesses monitor sites to see what's being said about the company. "It's about coming to grips with reality on this," Loveland says. ∎

Top concerns

Forrester Research surveyed 1,282 corporate security decision makers about their top concerns regarding employee use of social media. Below are percentages of those decision makers concerned about the following issues.

LEGEND

■ Enterprise
(1,000 or more employees)

■ Small to midsize business (SMB)
(20-999)

■ Very-small business (VSB) (2-19)

Data leaks that can expose the organization to **lawsuits** or **lost business**

ENTERPRISE	**69**%
SMB	**51**%
VSB	**27**%

Employees **posting inappropriate/embarrassing content** that causes brand damage

ENTERPRISE	**60**%
SMB	**51**%
VSB	**21**%

Ensuring/asserting regulatory compliance in using these platforms

ENTERPRISE	**51**%
SMB	**36**%
VSB	**17**%

SOURCE: FORRESTER REPORT: "UNDERSTANDING LEGAL AND REGULATORY RISKS IN SOCIAL MEDIA"

NETWORKWORLD

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*Indicates Regional Demographic

Microsoft: Too old and too big to survive?

WHAT BROWSER do you prefer? According to w3schools.com, which tracks browser usage of people interested in Web technologies and hence more likely to try alternative tools, as of April this year, 38.3% of us preferred Google's Chrome, 35.8% went with Mozilla's Firefox, and 18.3% were still using Microsoft's Internet Explorer (Apple's Safari and Opera were trailing way behind). Over the last year IE and Firefox have seen their shares decrease and only Chrome has gained share.

So, will these trends continue? Will Google continue to gooble up the browser market? Ah, gentle reader, you might think so or, indeed, hope so, but not if Microsoft has its way.

In what I assume are the first steps of a broader world domination strategy, it seems Microsoft has decided that, under Windows RT (a version of Windows 8 designed for the ARM architecture), and possibly under Windows 8 on x86 as well (according to Internet Evolution (see tinyurl.com/cwam7fk), only Internet Explorer will be able to access all the available APIs and security features.

On the Mozilla blog a post by Harvey Anderson, Mozilla general counsel, explained the situation: "It's reported that Windows RT ... will have two environments, a Windows Classic environment and a Metro environment for apps. However, Windows on ARM prohibits any browser except for Internet Explorer from running in the privileged 'Windows Classic' environment. In practice, this means that only Internet Explorer will be able to perform many of the advanced computing functions vital to modern browsers in terms of speed, stability, and security to which users have grown accustomed. Given that IE can run in Windows on ARM, there is no technical reason to conclude other browsers can't do the same."
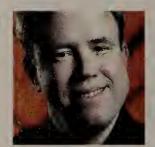
These limitations would make it impossible for other browsers to do things like use plug-ins and extensions that aren't approved of by Microsoft. Now, given how rapidly the market for ARM-based laptops and desktops is expanding, this could seriously impact the other browsers' market shares as well as completely remove anything that might look like user choice.

In other words, Microsoft would be quite intentionally and transparently stifling competition and indulging in the sort of anti-competitive practices that caused it to be taken to court by the European Union, where the company was found guilty and wound up paying an enormous fine.

According to a CNET article, Microsoft Deputy General Counsel David Heiner justifies this move by arguing that ARM processors have new security and power management features and Microsoft is "the only one who can meet those needs" and that Windows RT "isn't Windows anymore."

This is quite obviously complete nonsense and, when you combine that with other Microsoft moves, such as canning its lame "Windows Live" branding and extending its ridiculous $99 "Signature Upgrade" bloatware removal service to Windows 8, you might be starting to wonder whether Microsoft is entering its dotage. Perhaps, unlike the banks, Microsoft hasn't become too big to fail but rather too old and too big to survive. ■

Gibbs is hanging on in Ventura, Calif. Your survival plans to backspin@gibbs.com and follow him on Twitter (@quistuipater).

What's missing from the iPhone 5 rumor mill

A KEY tenet of Apple rumormongering is that Apple history repeats itself repeatedly: If Apple has done X, Y and 42 so much as twice consecutively, pundits posit that Apple will do X, Y and 42 a third time.

So I'm going to use this methodology to attempt to poke holes in a solidifying conventional wisdom that Apple will announce the iPhone 5 on June 11 at its Worldwide Developers Conference.

As anyone who follows the industry knows, each of the past two iPhone releases has been preceded by a prototype of the upcoming model disappearing from a bar.

An iPhone 4 prototype went missing on March 18, 2010, and Apple officially unveiled the model on June 7. That's 81 days later. An iPhone 4S prototype skedaddled out of a saloon on July 21, 2011, and Apple took the wraps off that baby on Oct. 4. Seventy-five days.

A difference of a mere six days. Coincidence? I think n ... well, work with me here.

The next component in the equation is the elapsed time between the loss of the prototype and public disclosure of same.

The loss of the iPhone 4 prototype was not revealed publicly until an April 18, 2010, story by Gizmodo: 32 days. The iPhone 4S prototype was quietly MIA until an Aug. 31, 2011, story by CNET: 41 days.

Close again: We see that it takes the press an average of 36.5 days to catch wind of iPhone prototypes going missing from bars.

Which brings us back to June 11 and Apple's Worldwide Developers Conference, at which — if you believe a growing chorus of pundits — there is expected to be an official iPhone 5 announcement.

Color me skeptical. Unless all the iPhone 5 prototypes have been surgically implanted into the forearms of those Apple employees who have them, history tells us that one went missing on or about Feb. 27, which means the news story should have been published in early April.

Since the latter didn't happen, the implications are clear: Either Apple has gotten much better at suppressing news about its missing iPhone prototypes. Or those looking for an iPhone 5 announcement on June 11 are going to be sorely disappointed.

History's first prank phone call

Unless it turns out that Alexander Graham Bell didn't really want to see Watson — that he was just goofing on the guy — then the first documented prank phone call would appear to have occurred about eight years after that famous 1876 exchange ... and at the expense of an undertaker in Providence, R.I.

This nugget of telecommunications history comes from the Feb. 2, 1884, edition of *The Electrical World*, via Google Books, and was unearthed by Paul Collins, an associate professor of English at Portland State University, who is perhaps better known as The Literary Detective. The passage, highlighted on Buzzblog last week, reads:

"A GRAVE JOKE ON UNDERTAKERS — Some malicious wag at Providence R.I. has been playing a grave practical joke on the undertakers there, by summoning them over the telephone to bring freezers, candlesticks and coffin for persons alleged to be dead. In each case the denoument was highly farcical, and the reputed corpses are now hunting in a lively manner for that telephonist."

Who knew the 19th century had its own Bart Simpson? ■

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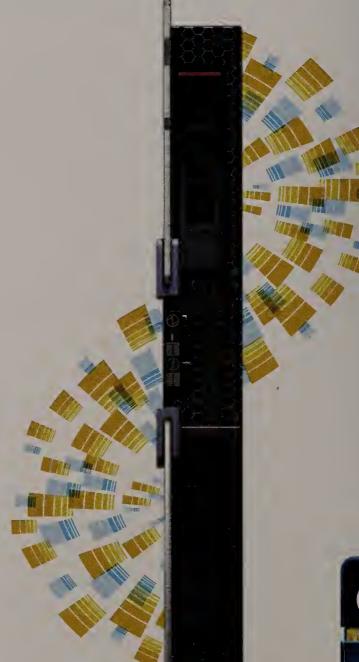
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